

Name: _____ Period: _____ Date: _____

More Multiplication Properties of Exponents Assignment

Simplify the following expressions.

1. $(x^3)^4$

2. $(a^3)^5$

3. $(a^0)^{10}$

4. $(5^2)^2$

5. $(2^3)^2$

6. $(a^2b^3)^5$

7. $(2x^3)^4$

8. $(3v^3r^2)^2$

9. $(4a^3b^2c^3)^0$

10. $(2q^{-1}r^5t^{-3})^2$

More Multiplication Properties of Exponents Assignment

Evaluate the following using properties of powers.

11. $9^2(3xy^2)^2$

12. $(2a^2b)^3(3ab)^2$

13. $(32uv^2)^0(4u^3v^3)^2$

14. $(12a^4b^2)^2(3ab)$

15. $(3x^3y^{-2})^2(4xy)^0$

16. $(3xy)^2(5x^2y)$

17. $(3x)^2(2xy)(5x)^2$

18. $(4x)^2(2x)(-3x^3)$

19. $(4ab)^2\left(\frac{1}{2}\right)^4$

20. $(5x^2y)(3x)^2(y)(4xy)^0$

More Multiplication Properties of Exponents Assignment

Answer:

Simplify the following expressions.

1. $(x^3)^4 = x^{12}$

3. $(a^0)^{10} = 1$

5. $(2^3)^2 = 2^6 = 64$

7. $(2x^3)^4 = 2^4 x^{12} = 16x^{12}$

9. $(4a^3b^2c^3)^0 = 1$

2. $(a^3)^5 = a^{15}$

4. $(5^2)^2 = 5^4 = 625$

6. $(a^2b^3)^5 = a^{10}b^{15}$

8. $(3v^3r^2)^2 = 3^2v^6r^4 = 9v^6r^4$

10. $(2q^{-1}r^5t^{-3})^2 = 2^2q^{-2}r^{10}t^{-6} = \frac{4r^{10}}{q^2t^6}$

Evaluate the following using properties of powers.

11. $9^2(3xy^2)^2 = 81(9x^2y^4) = 729x^2y^4$

13. $(32uv^2)^0(4u^3v^3)^2 = 1(16u^6v^6) = 16u^6v^6$

15. $(3x^3y^{-2})^2(4xy)^0 = 9x^6y^{-4}(1) = \frac{9x^6}{y^4}$

17. $(3x)^2(2xy)(5x)^2 = 9x^2(2xy)(25x^2) = 18x^3y(25x^2) = 450x^5y$

19. $(4ab)^2(2^{-1})^4 = 16a^2b^2(2^{-4}) = 2^4a^2b^2(2^{-4}) = a^2b^2$

12. $(2a^2b)^3(3ab)^2 = 8a^6b^3(9a^2b^2) = 72a^8b^5$

14. $(12a^4b^2)^2(3ab) = 144a^8b^4(3ab) = 432a^9b^5$

16. $(3xy)^2(5x^2y) = 9x^2y^2(5x^2y) = 45x^4y^3$

18. $(4x)^2(2x)(-3x^3) = 16x^2(2x)(-3x^3) = 32x^3(-3x^3) = -64x^6$

20. $(5x^2y)(3x)^2(y)(4xy)^0 = (5x^2y)(9x^2y)(1) = 45x^4y^2$